

REMARKS

The Examiner has not returned a signed copy of Form PTO/SB/08 A&B (modified) filed with the application on December 19, 2001. Applicants respectfully request that the Examiner initial and date the form, and return a signed copy. For the Examiner's convenience, Applicants herewith attach a copy of Form PTO/SB/08 A&B (modified) of December 19, 2001.

The specification has been amended to correct two typographical errors.

Claim 1 has been amended to delete the parenthesis.

Claim 15 has been amended to remove multiple dependency.

No new matter has been added, and thus entry of the present Amendment is respectfully submitted to be proper. Upon entry of the Amendment, claims 1, 5 and 8-19 will be all the claims pending in the application.

Claims 15-19 were objected to as being in improper form.

In response, claim 15 has been amended to remove multiple dependency. Accordingly, the Examiner is respectfully requested to withdraw the objection, and to examine claims 15-19 on the merits.

Claim 1 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

In response, Applicants have amended claim 1 to delete the parenthesis. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejection.

Claims 1, 5 and 8-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mukaiyama et al (U.S. Pat. No. 4,737,526).

Applicants respectfully submit that the amended claims are not obvious over Mukaiyama et al for the following reasons.

The present invention relates to ethylene (E)/hexafluoropropylene(HFP)/vinylidene fluoride(VdF) terpolymer. As described in the present specification, it is known that E-HFP copolymer exhibits excellent amine resistance. The present invention is accomplished by further copolymerizing VdF to the E-HFP copolymer in order to improve its vulcanization property.

An ethylene unit is hardly subject to attack by a nucleophilic reagent, and therefore imparts amine resistance to the copolymer. On the other hand, a vinylidene fluoride unit is easily subject to attack by a nucleophilic reagent, which is disadvantageous with respect to amine resistance, but is capable of being a cure site for the polyol vulcanization.

It is important that these monomer units are mixed in a good balance. As described in "BACKGROUND ART" portion of the present specification, when the amount of ethylene is too small or the amount of vinylidene fluoride is too large, sufficient amine resistance cannot be obtained. A copolymer which has both, good amine resistance and which can be subject to polyol vulcanization, can be obtained only by the monomer proportions defined in the present claim 1.

Mukaiyama et al relates to a VdF/HFP copolymer, and ethylene is exemplified only as one of copolymerizable olefins.

Therefore, the present invention differs from Mukaiyama et al in that E/HFP copolymer having excellent amine resistance is copolymerized with VdF to improve vulcanization properties.

AMENDMENT UNDER 37 C.F.R. § 1.111
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Also, Mukaiyama et al describes that ethylene can be added only in an amount in the range where favorable characteristics of the polymer are not greatly deteriorated. (See Col. 2 lines 6-18). Therefore, even if ethylene can be added to the VdF/HFP of Mukaiyama, the addition amount is small and cannot be in an amount of at least 30% by weight or more, as required in the present claims.

In view of the above, Applicants submit that the present invention is not obvious over Mukaiyama et al, and therefore the rejection should be withdrawn.

In view of the above, reconsideration and allowance of claims 1, 5 and 8-19 are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Fang Liu
Registration No. 51,283

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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CUSTOMER NUMBER

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